

Rejections Under 35 U.S.C. §102(e)

Claims 3 and 18 to 20 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,226,593 to Kurz ("Kurz" hereafter). Applicants respectfully traverse this rejection for at least the following reasons.

In note 8 of the pending Office Action, the Examiner acknowledges that Applicants' argument filed on 12/30/02 was fully considered and deemed to be persuasive. In the 12/30/02 reply, Applicants noted that Kurz fails to disclose or suggest monitoring the brake torque applied to the vehicle and modifying the brake signal based on the monitored brake torque after determination that the operator braking action is imminent as claimed. Rather, Kurz monitors engine torque by means of an engine management system (col. 3, line 23), monitors the distance between the vehicle and the obstacle (col. 3, lines 48-50), and monitors the relative speed between the vehicle and the obstacle (col. 3, lines 48-50). The monitored engine torque, distance, and relative speed are used to control the braking torque by means of a brake actuation device (col. 3, line 24). The brake torque is not, however, modified based on a monitored *brake* torque after determination that the operator braking action is imminent.

Thus Kurz fails to anticipate the claimed invention. Withdrawal of the rejection under §102(e) is earnestly solicited.

Rejections Under 35 U.S.C. §103(a)

Claim 1 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Kurz in view of U.S. Patent No. 5,131,268 to Dillmann ("Dillmann" hereafter). Applicants respectfully traverse this rejection for at least the following reasons.

In note 5 of the pending Office Action, the Office Action correctly acknowledges that Kurz fails to disclose the claimed brake torque threshold. As such, Kurz necessarily fails to disclose establishing at least one *brake torque threshold*, comparing a monitored brake torque with the established *brake torque threshold*, and modifying a brake signal in response to the comparing of the monitored brake torque with the established *brake torque threshold* as claimed. This is implicitly acknowledged in note 5 of the September 30, 2002 Office Action.

The Office Action asserts, however, that Dillmann rectifies this deficiency in Kurz, and that it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Kurz "by combining brake torque threshold, comparing the monitored brake torque with the established brake torque threshold, and modifying the brake signal in response to the comparing the monitored brake torque with the established brake torque threshold for selectively apply braking torque to the front and rear wheels depending on the relationship of the desired brake torque correction and the brake torque threshold." Applicants respectfully traverse this assertion for at least the following reasons.

Dillmann is directed at a method for monitoring braking torque capability of a brake assembly 48 used for selectively braking a shaft of a control rod drive in a nuclear reactor (see Abstract). More specifically, Dillmann discloses rotating an input shaft 24 with an electrical motor 42 (col. 3, lines 54 to 57; col. 4, lines 25 to 26), engaging a brake 62 for braking the input shaft 24 (col. 3, lines 65 to 68; col. 4, line 27), torsionally restraining the brake 62 for allowing limited rotation of the brake 62 relative to the base 52 up to a predetermined maximum angle A_{max} (col. 5, lines 1 to 5), and monitoring the angle A for monitoring braking torque capability of the brake 62 (col. 5, lines 5 to 6). Angle A may be monitored to determine when a threshold angle A_t has been reached to indicate that the brake 62 is effective for providing a predetermined threshold torque (col. 5, lines 16 to 18), or to provide a continuous indication of the particular level of torque being resisted by the brake 62 (col. 5, lines 20 to 22).

Dillmann fails to disclose or suggest, however, *modifying* a brake signal in response to a comparison of the monitored brake torque capability of the brake 62 with the brake torque threshold angle A_t . Rather, the electrical signal generated by Dillmann is merely indicative of whether the brake 62 is effective for providing a predetermined threshold torque (col. 5, lines 15 to 18). This monitoring ensures operability of the brake 62 without requiring inspectors to manually test the brake 62, which would require shutdown of the reactor (col. 1, line 59 to col. 2, line 6). However, as noted above, the electrical signal in Dillmann is not *modified* as claimed. By *modifying* the electrical signal, the presently claimed invention may perform additional features not taught or suggested by Dillmann such as termination of a stand-by braking torque upon operator depression of a brake pedal (see page 30, lines 2 to 6

of the as-filed specification). Thus, as Dillmann fails to disclose or suggest the claimed *modification* step, it fails to rectify the acknowledged deficiencies in Kurz.

Lack Of Motivation To Combine The References

Furthermore, Applicants direct the Examiner's attention to MPEP §2143, which states in part (emphasis added):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation ... to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.

The Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kurz with the braking technique of Dillmann so as to achieve the claimed invention. The Office Action does not, however, set forth any motivation for doing so. Thus, the motivation relied upon by the Office Action must be based on improper hindsight reasoning gleaned only from Applicants' disclosure. See MPEP §2145(X)(A) (Impermissible Hindsight); and MPEP §2145(C) (Lack of Suggestion To Combine References). Hence, the Patent Office has failed to establish a *prima facie* case of obviousness.

Applicants further note that Kurz and Dillmann are directed at entirely different problems which teach away from their combination. See MPEP §2145(D) (References Teach Away from the Invention or Render Prior Art Unsatisfactory for Intended Purpose). Kurz is directed at a method for braking a motor vehicle at low speeds in order to avoid a collision with an obstacle in its immediate vicinity (see Abstract), whereas Dillmann is directed at control rod drives for nuclear reactor vessels (col. 1, lines 6 to 10). One of ordinary skill in the art would not look to a nuclear reactor vessel as in Dillmann, to modify a low speed collision avoidance system such as Kurz, because the two are directed at *entirely* different fields of use.

"[C]ommon sense" must be applied in deciding in which fields a person of ordinary skill would reasonably be expected to look. Oetiker, 24 U.S.P.Q.2d at 1446. In Oetiker, the Court found that "[i]t has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments." Id. In a similar fashion, a

person of ordinary skill in the collision avoidance field would not reasonably look to the nuclear reactors for guidance on how to avoid collisions with other objects.

Moreover, as set forth in MPEP §2143.01 (The Proposed Modification Cannot Change The Principle Of Operation Of A Reference), if the proposed combination of the prior art would change the principle of operation of the prior art being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Combining Kurz with Dillmann would result in an inoperative device, because a lack of braking torque capability in Dillmann allows for selective application of the plurality of brakes, whereas Kurz cannot slow the motor vehicle to a stop if the braking torque capability in one or more of the brakes lacks when the distance falls below a stop limit. Thus, the proposed combination of Kurz with Dillmann would not result in an operable device.

In brief, there is no motivation to combine the references as set forth by the Office Action. Withdrawal of the rejections under 35 U.S.C. §103(a) is earnestly solicited.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

By



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